

## PATENT COOPERATION TREATY

From the:  
INTERNATIONAL SEARCHING AUTHORITY

To:

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**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) **07 APR 2005**

Applicant's or agent's file reference  
**pctp0400397**

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
**PCT/AU2005/000093**

International filing date (day/month/year)  
**28 January 2005**

Priority date (day/month/year)  
**30 January 2004**

International Patent Classification (IPC) or both national classification and IPC  
**Int. Cl. <sup>7</sup> A01C 23/04**

Applicant  
**MACMAHON, John Fletcher**

**1. This opinion contains indications relating to the following items:**

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2005/000093

Box No. I      Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No. '1

AFJ Rec'd PCT/PTO 20 JUN 2006

PCT/AU2005/000093

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims 10, 13, 14	YES
	Claims 1-9, 11, 12, 15	NO
Inventive step (IS)	Claims	YES
	Claims 1-15	NO
Industrial applicability (IA)	Claims 1-15	YES
	Claims	NO

## 2. Citations and explanations:

Cited Prior Art Documents

D1: AU 77678/94 A (HAUS) 7 March 1996

D2: US 4477960 A (KNAPP) 23 October 1984

D3: US 5927610 A (DUTCHER) 27 July 1999

D4: DE 2839017 A1 (WAGNER &amp; HALLENSLEBEN GMBH) 20 March 1980

D5: AU 56208/96 (684240) B (ZIERK) 4 December 1997

D6: AU 52154/79 A (HAMANN) 1 May 1980

D7: AU 33135/78 A (AQUAFEED INDUSTRIES PTY. LTD.) 16 August 1979

NOVELTY(N): Claims 1-9, 11, 12, 15

The invention defined in claim 1 is not novel in light of documents (D1) to (D6). Each document discloses a form of nutrient delivery device wherein water is delivered to an inlet of a chamber that contains a dissolvable nutrient. Any undissolved nutrients are filtered out by a filter prior to the solution leaving an outlet of the chamber. Therefore the invention of claim 1 is not novel in light of these documents.

Document (D1) further discloses the inlet having a vacuum release valve and the filter is of an elongate tubular shape with fine mesh (25) and has a conical shaped end or nose (28). The nose is disposed within the path of the water leaving the valve. Therefore the claims 2 to 9 and 15 are also not novel.

Document (D2) further discloses the inlet having a one-way inlet valve (50) which is connected by a socket to the chamber and has a conical shaped filter (72) at the outlet. Also the socket diameter is smaller than the chamber diameter. Therefore the claims 2, 3, 5, 11 and 12 are also not novel.

Document (D4) further discloses the arrangement of the filter being an elongate tube member with a closed end. Therefore the claims 6, 7, 8 and 15 are not novel.

Consequently the invention as defined in claims 1-3, 5-9, 11, 12 and 15 are not novel in light of the prior art information contained in one or more of the documents (D1) to (D6)

(Continued on Supplemental Sheet)

WRITTEN OPINION OF THE  
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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of Box V:

INVENTIVE STEP(IS): Claims 1-15

Claims 1-9, 11, 12, 15: As commented upon above.

Claim 2, 3, 4:

Document (D7), in figure 7, discloses the a vacuum breaker facility on the one way inlet valve (36) on the distributing apparatus. As such the provision of this type of inlet valve on the nutrient delivery device on the present invention lacks an inventive step when the disclosure of document (D7) is combined with the disclosure of one or more of the documents (D2) and (D3). Hence the invention of claims 2, 3 and 4 lacks an inventive step over documents (D2) and (D3).

Claims 9 and 10:

The particular design of the filter is considered to lack an inventive step over the disclosure of documents (D1) and (D4). The shape of the cap being conical in document (D4) is merely a workshop improvement, and the surface area of the filter to be least 20 times the cross sectional area of the outlet is a matter of design to meet any required flow rates, etc. Therefore the invention of claims 9 and 10 is considered to lack an inventive step.

Claims 11 and 12:

These claims further define the valve connected to the chamber by a socket and the relative diameter of the socket to the diameter of the chamber. It is considered that these features are mere workshop improvements over documents (D1) and (D2) and hence the invention of claims 11 and 12 lacks an inventive step.

Claims 13 and 14:

The added feature of sealing means in the form of mesh over the open ends of the chamber to contain the nutrients and produce a single-use device is considered to be an arrangement that any competent worker in the art would have been expected to make and would be well within the general knowledge of any such appropriately skilled person. Therefore the invention of claims 13 and 14 lack an inventive step over documents (D1) and (D2).

Consequently the invention as defined in claims 1 to 15 does not involve an inventive step over the documents (D1) to (D4).

INDUSTRIAL APPLICABILITY(IA): Claims 1-15

The invention as defined in claims 1 to 15 have industrial applicability because the nutrient delivery device can be made or used in industry.